MPUC2K
Mission Planning User's
Conference 2000

Mission Planning Roadmap

2K

ESC/ACU

46 TS

HQ ACC

HQ AMC

HQ AFSOC

US Navy

MPSSF

Col Bud Vazquez
Program Manager
Wing Unit C2 Systems
15 Feb 00

Overview

- **Y2K Wrap Up**
- **JMPS Vision**
- **Requirements Process**
- **Systems Procurement Plans**

AFMSS Products

- **Current**
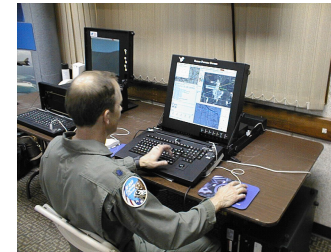 - **Mission Planning System (MPS)**
    - **UNIX Based: Sanders**
  - **Portable Flight Planning Software (PFPS)**
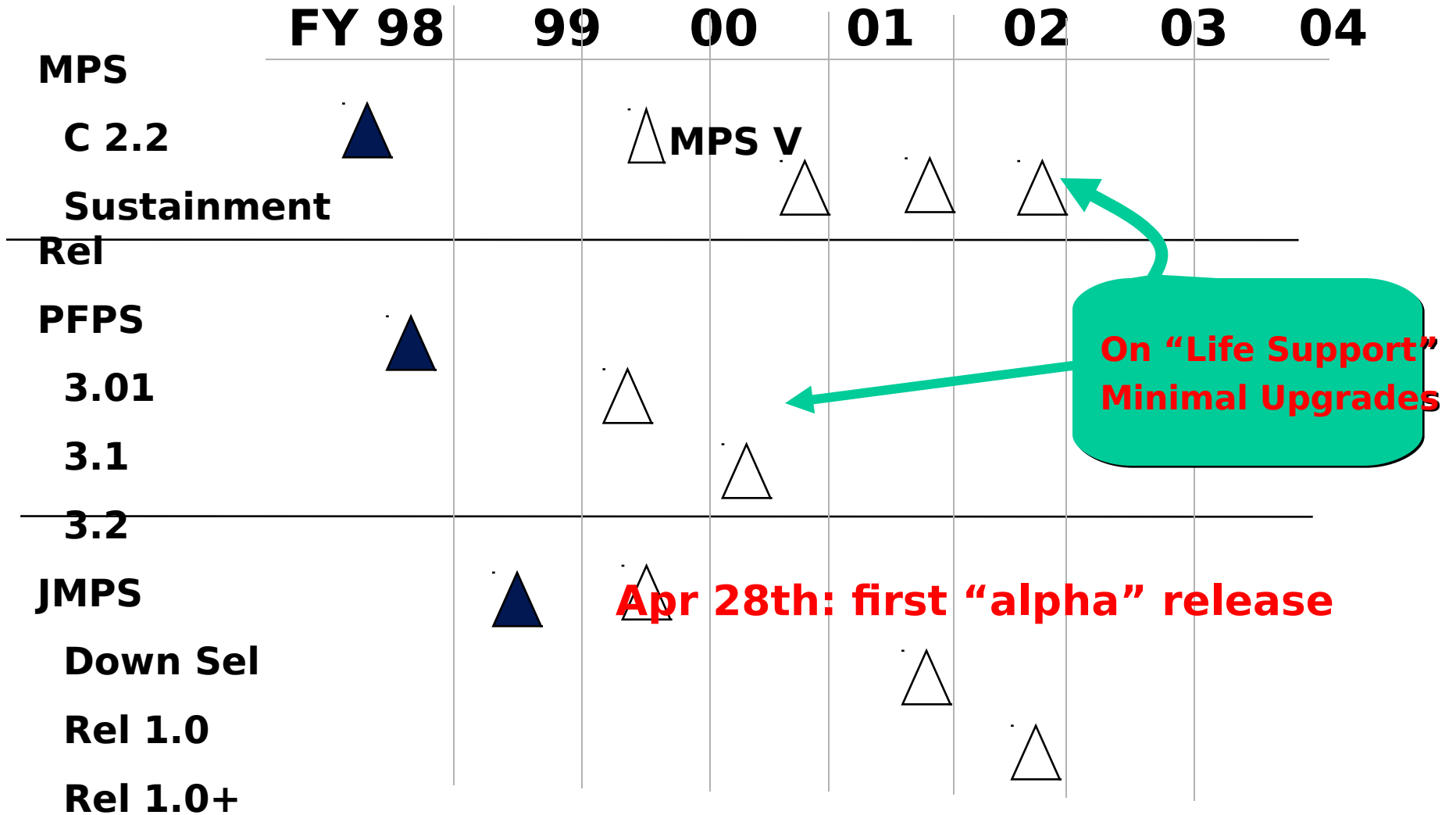   - **Windows 95/NT: Tybrin**

- **Future**
  - **Joint Mission Planning System (JMPS)**
    - **PC-laptop, scaleable, DII-COE compliant: Logicon**

MPS II

MPS III

PFPS

MPS IV

$$AFMSS = MPS + PFPS + JMI$$

Program Software Release Schedule

Y2K Status Wrap up

Aug '98 | Jan '00

Y2K AFMSS Fielded

33

F-16 Blk 30/40/50   EC-130E
EC-130H   HC-130H
HC-130N   HC-130P
E-3 20/25   C-130H
C-130E   LC-130H
WC-130H   E-4

T-38
B-52H 2.5 (JDAM, WCMD)
B-52 MDPS
B-2/JDAM
KC-135R
HH-60G
B-1B/JDAM
F-15 MSIP
F-16 Blk 50T4 (HTS)
C-141B
F-15 E
C-17

Current non-Y2K MP Systems

0

Priority 1

OT Complete, Fielding:

In OT:

OT Pending

New AFMSS Systems

1

Priority 2

OT Complete, Field

A-10

In OT:

OT Pending:

Post Jan'00

16

ABL
F-22
B-52(JASSM)
MALD
Global Hawk
Predator

RC-135 U/V/W
C-130J
C-9
KC-10
E-8
C-5
E-3
KC-135E
B-52 v 4.0
B-52 v4.5
w/AGM-142

1999 Year in Review
Ingredients for Success

1. Extended Team-work

2. Contractor Performs

3. Senior Leadership Support

4. Good Plan to Execute

There is no end-state to mission planning
CSAF

Self-Assessment

	Name Hate	Coping	Like	Marry & Kids After It
MPS I	✔			
MPS II		✔		
MPS III			✔	
MPS V			✔	
PFPS '94				✔
PFPS '99				✔
JMPS 1				✔
JMPS 2				✔

ESC's Idea for JMPS Hardware Suite
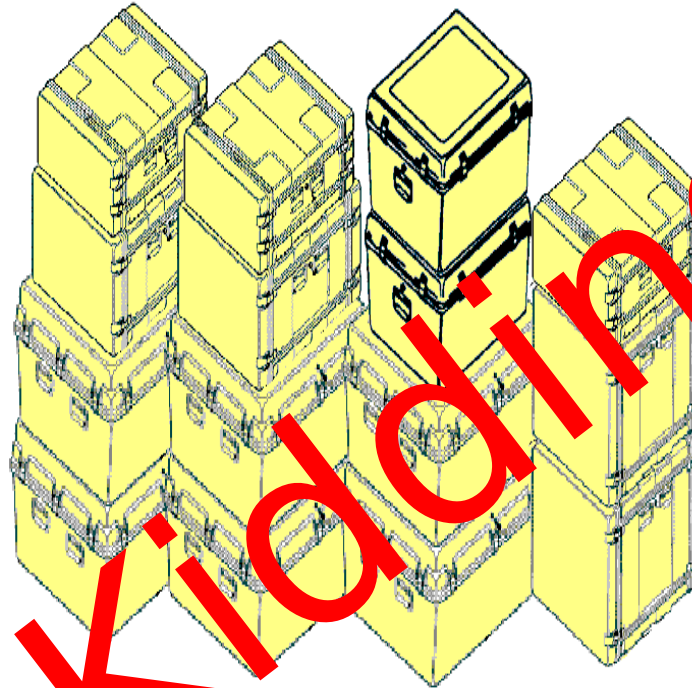
JMPS
SV: 174.6 ft^3
Cases : 15
Wt: 1495 lb
FP: 34.8 ft^2

Just Kidding!

JMPS ROADMAP

99	00	01	02	03	04	05

NMP

F-18
F-14
JDAM
Helo
Others

SOFPARS

SOF**

AFMSS

Helo

Fighters

Airlift

UAV,
PGM'S
F-15E
B-1, B-52

B-2, F-117,
JSF   F-22

TAMPS

N-PFPS

PFPS

MPS II
MPS III
MPS IV

AMPS

IMPS Ver 1.0 (Basic Mission
• **Schedule baselined: 32 months of development + 6 months OT&E**
• **FMS customers briefed (2 Nov/1 Dec)**

JMPS Ver 2.0 (Combat Mission Planning)

1.0

+SOF Unique = <u>SOFPARS</u>

+Air Force Unique = <u>AFMSS</u>

+Army Unique = <u>AMPS</u>
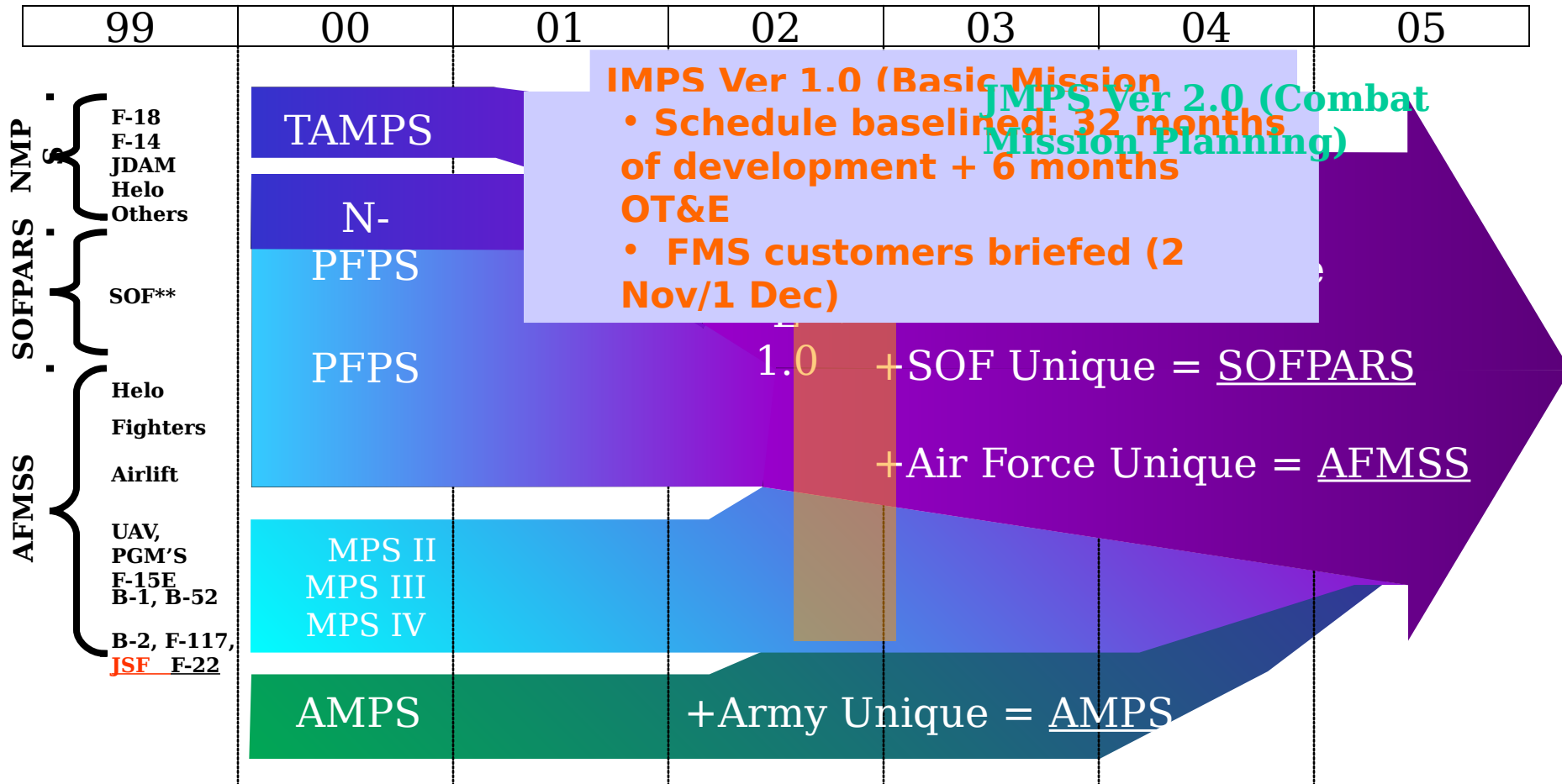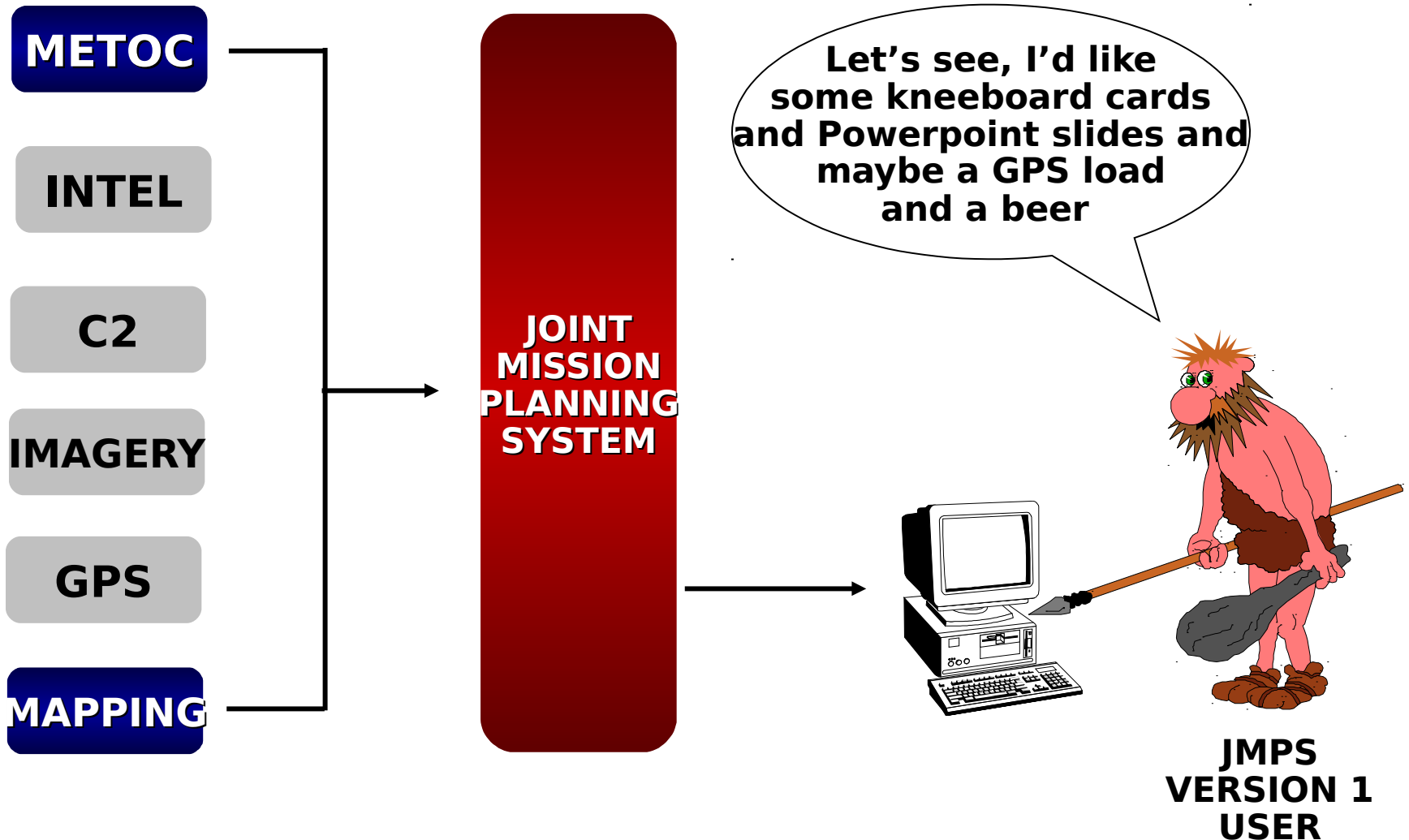
What's The Problem
JMPS Combat Mission Planning

METOC

INTEL

C2

IMAGERY

GPS

MAPPING

JOINT
MISSION
PLANNING
SYSTEM

Let's see, I'd like threat laydown, assessment of enemy system capabilities, sensor performance predicitions, and a beer
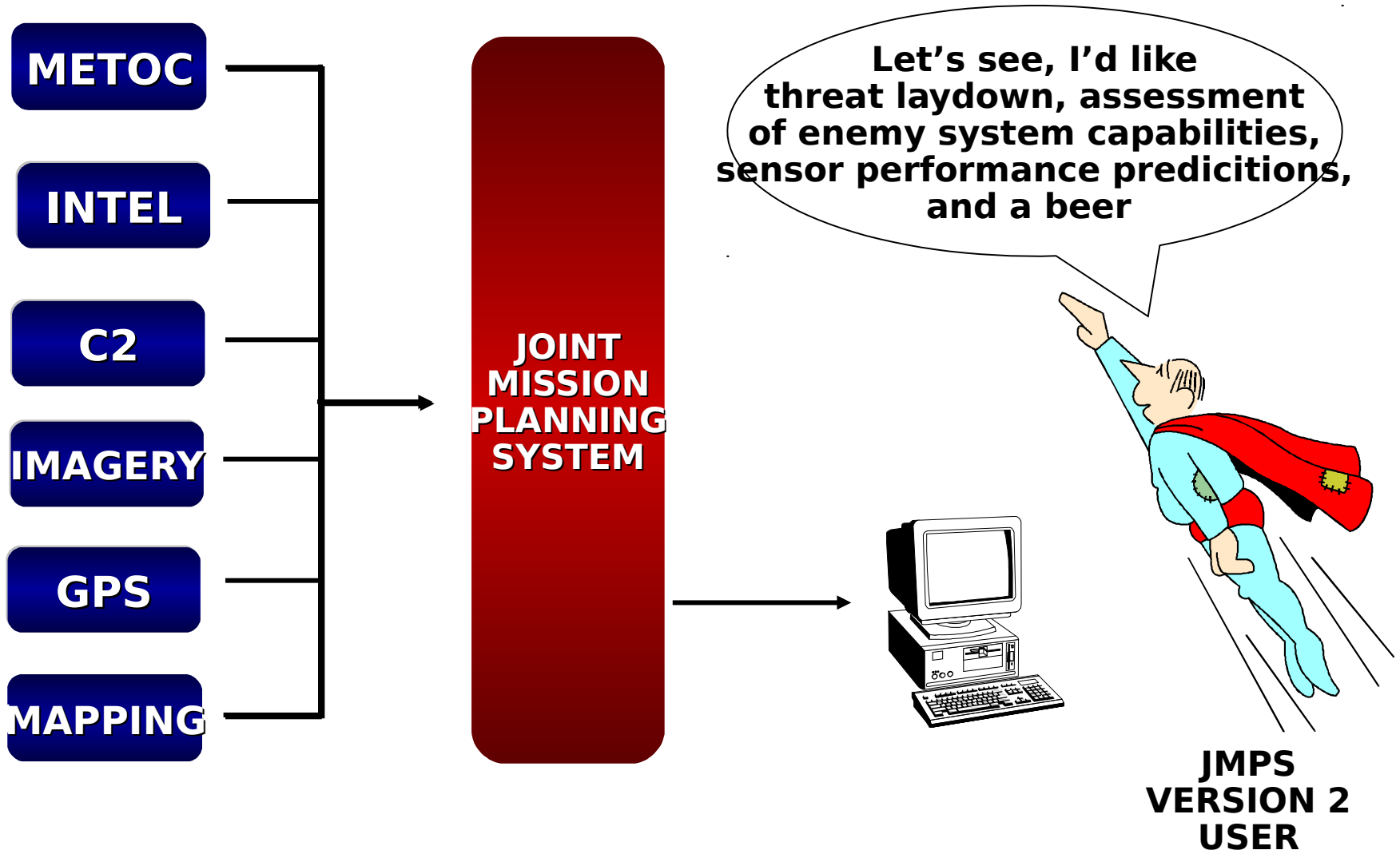
JMPS
VERSION 2
USER

How To Build a JMPS...
that is the question

PFPS + MPS = JMPS (?)

New MP Capability Ideas

MPS

PFPS
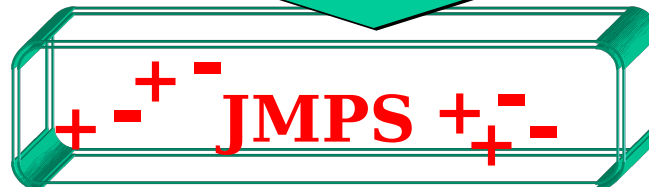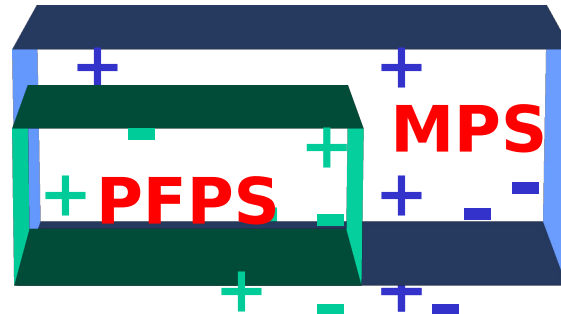
A Better Idea
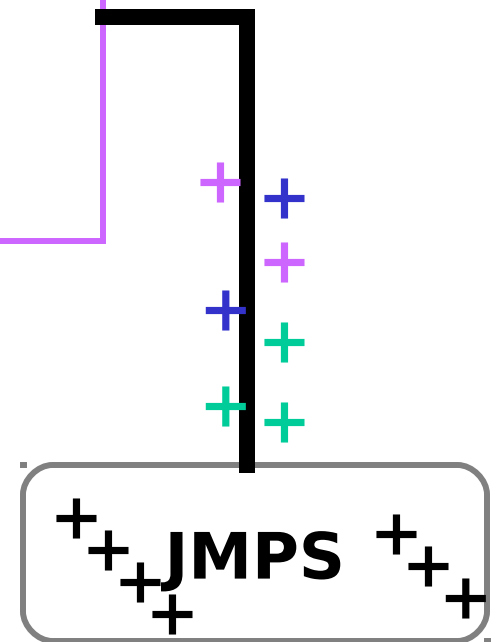
JMPS

JMPS

JMPS Common Component (CC) Advocacy

- **Lobbying MAJCOMs for CC Advocacy**
  - **Impact**
    - **Window "closed" WRT influencing JMPS architecture**
  - **Multi-Level Security (MLS)**
    - **JSF funded Phase I study re: architectural issues**
    - **MLS <u>not</u> in JMPS V1.0: Remains unfunded req't**
      - **Supported by ORD; No ACC $**
      - **Supported by JSF and F-22; No $ committed**
  - **Other AF-USN common components:**
    - **GATM, PGMs, and CLOAR**
    - **Require champions to define requirement and identify funding**

ESC Initiatives Based on Lesson Learned

- **Requirements viability**

  – **AFMSS**

| MAJCOM Customer Define Rqmt | Don't meet need of "x" user | MAJCOM Customer Chg Rqmt | Don't meet need of "y" user | MAJCOM Customer Chg Rqmt | Don't meet need of "z" user |

1 **2** **3**
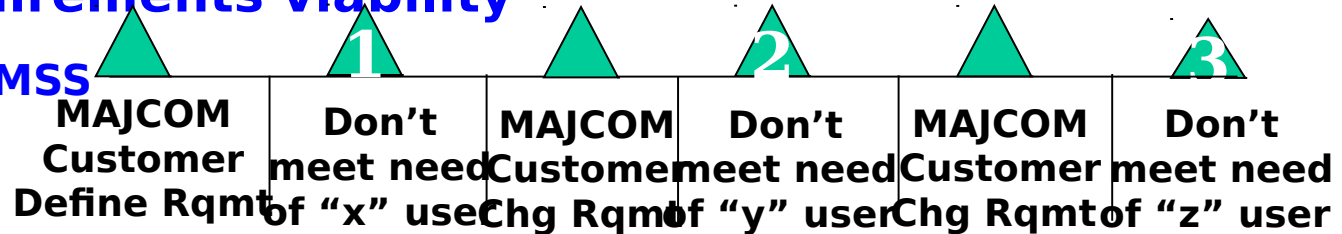
- **Rebaselining impacts Cost, Schedule, and Performance**

-- JMPS WAURG Process

WAURG

AF

AF Unique

Mission Area Advocate/User Defines Rqmt

Common Rqmts merged

USN

USN Unique

MAJCOM Apprv

NAVCOM Apprv

1 **User "x", "y", "z" Accepts**

Common Rqmts merged

1 **User "a", "b", "c" Accepts**
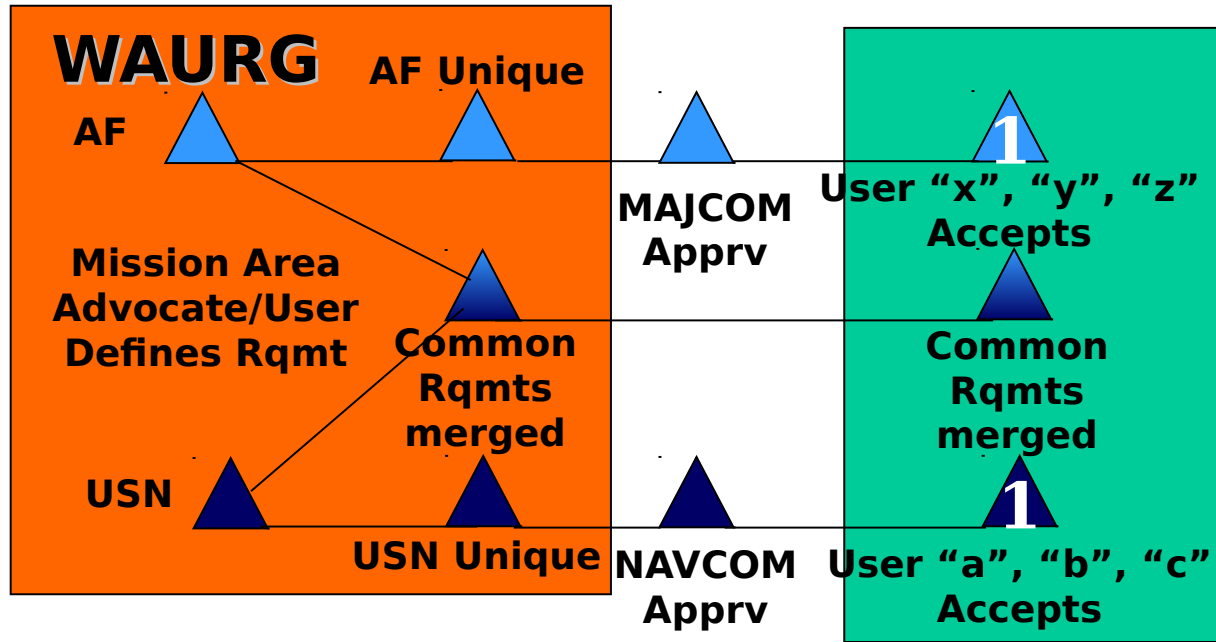
Reducing Requirements Cycle Time

Desert Storm

Iraq

Kosovo

- FR = Fix Rqmt
- DC = Devel Capability
- FC = Field Capability
- RA = Rqmt Analysis

FR

DC

FC

- MAJCOM
  - Dev Rqmt
  - Fund Rqmt
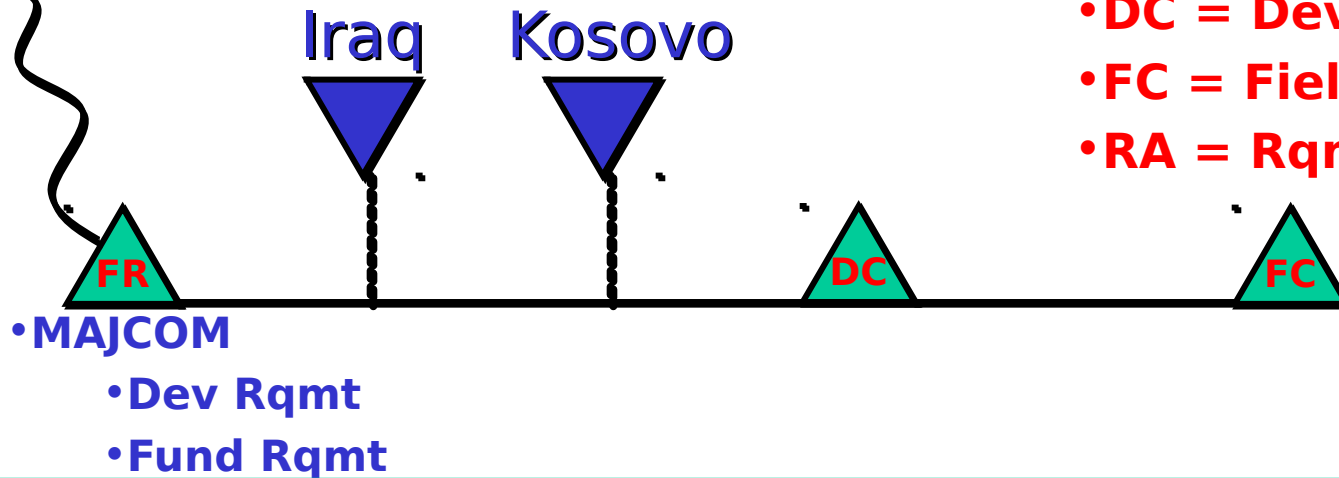
Requirements Currency and Response Time

= You

Iraq

Kosovo

RA FR DC FC

- MAJCOM
  - Fund Rqmt
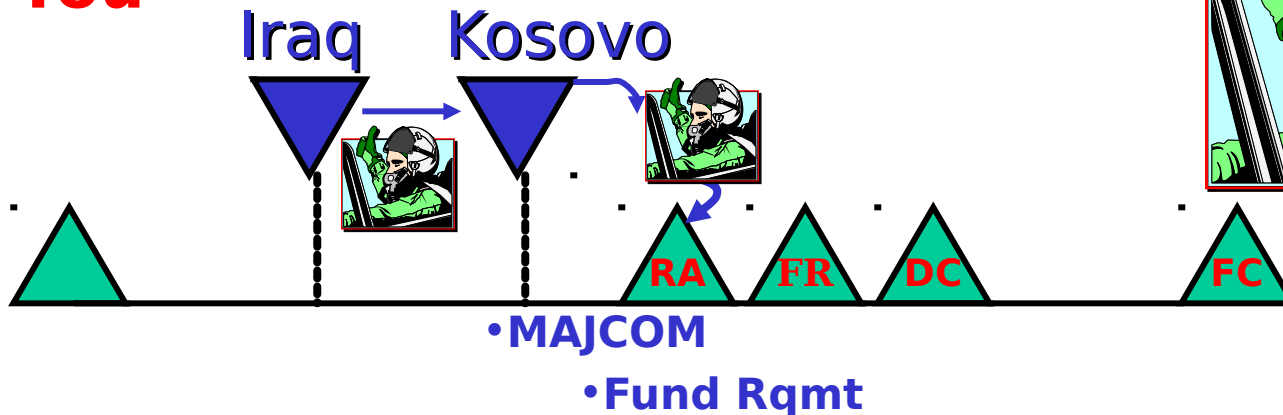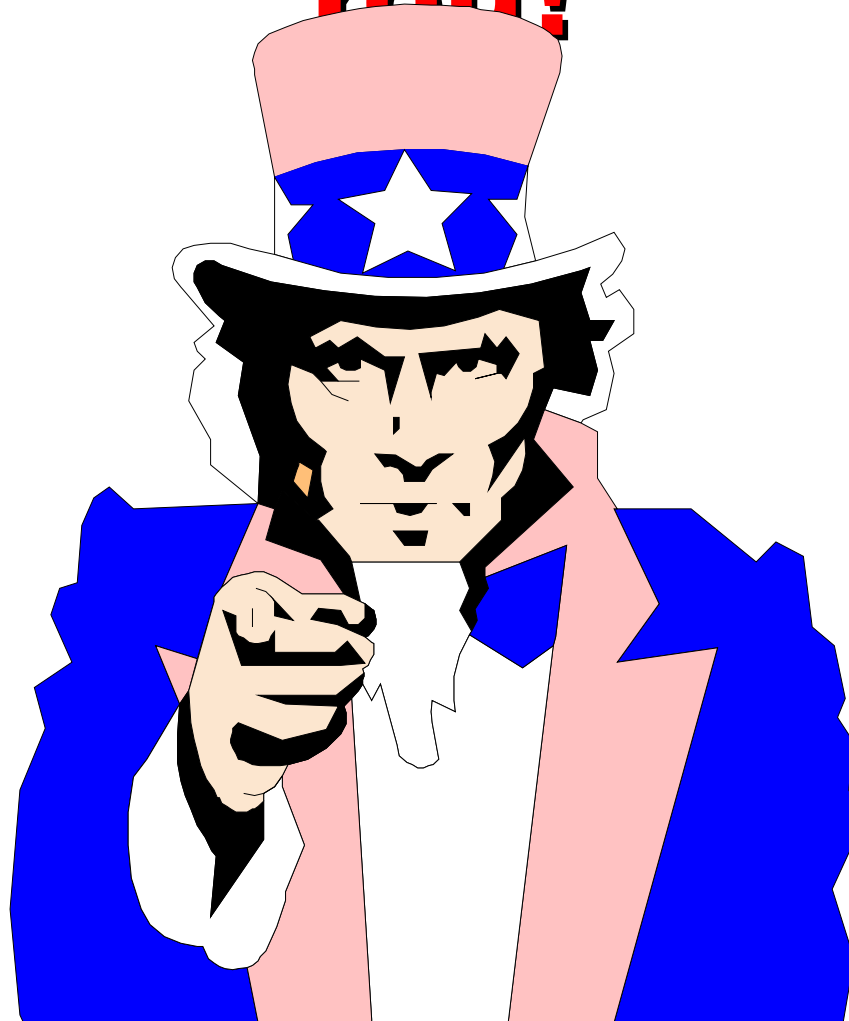
MPS III and MPS V Comparison

MPS III

Motherboard: Sun SPARC20

Processor: Dual 150MHz HyperSPARC

RAM: 128MB

Graphics Card: None

Bus: SCSI Wide

CD-ROM: 12X Drive

Tape Drive: 4mm

MPS V

Motherboard: Sun Ultra Axi

Processor: One 440MHz

RAM: 512MB

Graphics Card: 3D graphics card w/ 15MB RAM

Bus: Integr 16 bit SCSI Ultrwide PCI card for HD

CD-ROM: 40X Drive

Tape Drive: 4mm DDS-3 DAT Tape Drive

Basic MPS-III and MPS-V chassis are the same

PC Investment Plan
(Cumulative)

MAJCOM Objectives:
ACC: 1 pc/PAA
AMC: 1 pc/aircrew
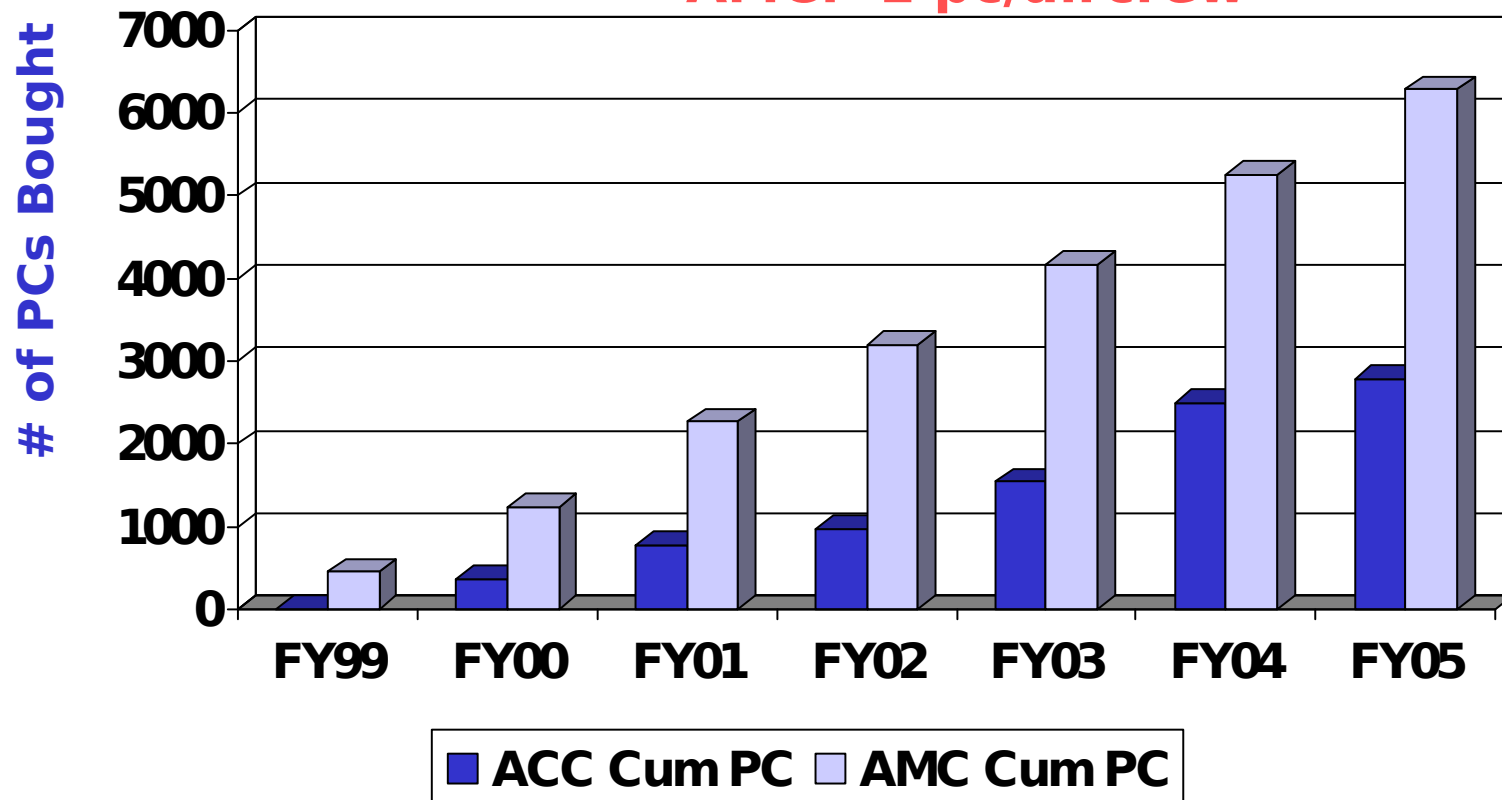
Note: These #s include technology refreshment

Migrating from MPS/PFPS to JMPS
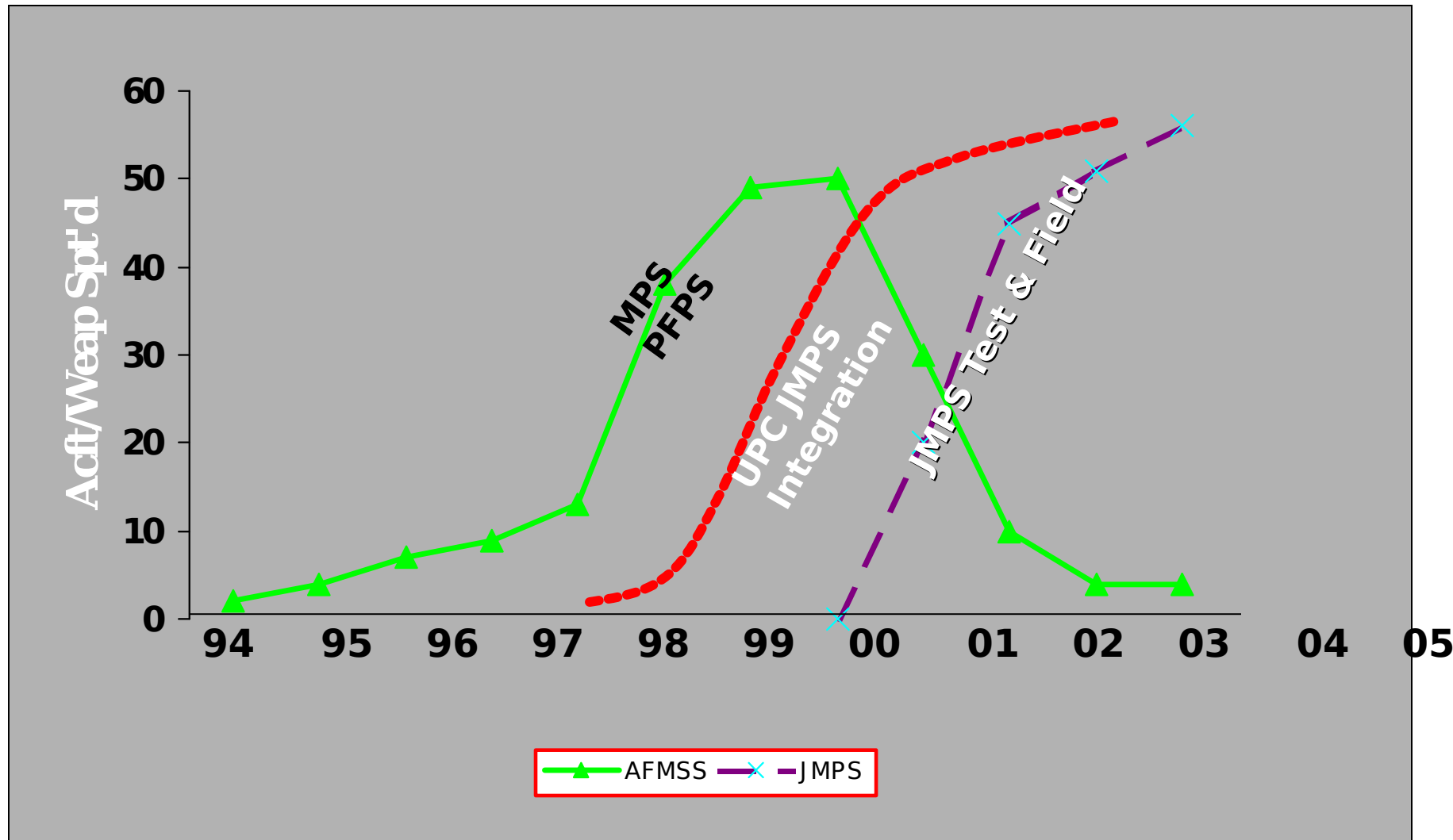
Integrated C2 Wing/Unit Systems

- **CAF C2 SPO expands ESC/ACU role (a/o 1 Jan)**
- **Increase focus on Integrated C2 & Wing Ops**
  - **Encompasses products in and destined for WOC/SOC**
    - **ESC/ACU Develops: AFMSS/JMPS**
    - **ESC/ACU Integrates: Intell Syst, Planning Cell, Sched, Command Post, Plans**
  - **Forcing Function for unit-level systems**
    - **Service Wing/Unit needs of all customers**

ESC/AC One-Stop Shopping for WOC/SOC Capability

Aircrew Input Gets It Done

- **Aircrew comments carry weight (pro & con)**
  - You all have the 1999 systems
  - Hopefully better
  - MP (PFPS and MPS) need aircrew advocacy
- **MAJCOM/XOs influence allocation of $$s**
  - Influence XOs when say "We can't do mission x"
- **We rely on you to:**
  - Push the current tools envelope
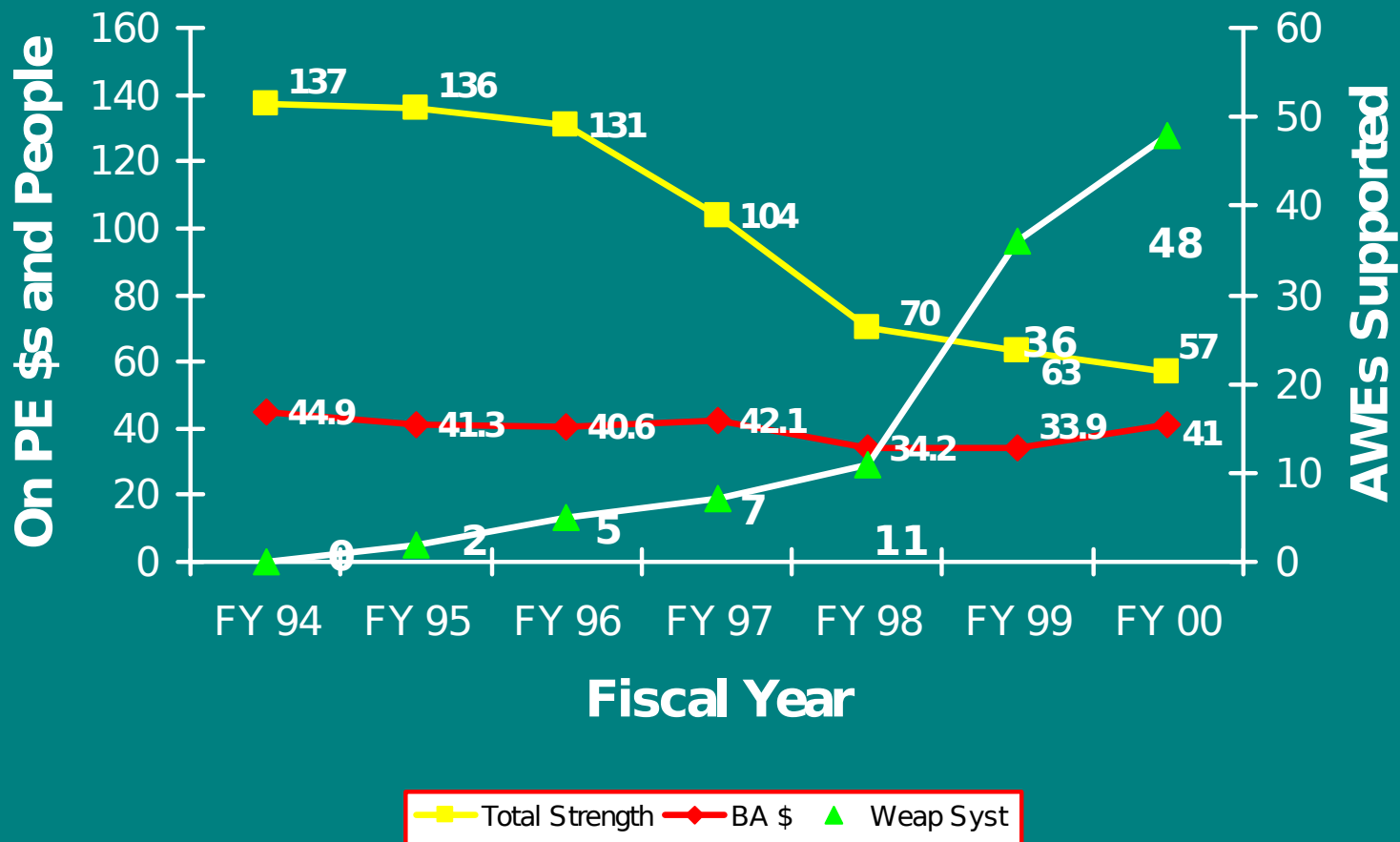 - Continue to describe needed fixes via MAJCOMs, SSRs, etc.
  - Pass on ideas for new MP potential

MPS Configuration - Improvements

Component	MPS-III	MPS-V
Motherboard:	Sun SPARC20	Sun Ultra Axi
Processor:	Dual 150MHz HyperSPARC	One single 440Mhz Processor
RAM:	128MB RAM memory	512MB RAM memory
Monitor:	Integrated 20" 1280x1024 LCD	Integrated 20" 1280x1024 LCD
Graphics Card:	NONE	Creator 3D graphics card with 15MB RAM
Bus:	SCSI Wide	Integrated 16 bit SCSI UltraWide PCI card for HDD
Hard Drives:	Four 9 GB SCSI	Two 18 GB SCSI UltraWide
		Two 36 GB SCSI UltraWide
CD-ROM:	CD-ROM 12x Drive	CD-ROM 40x Drive
Tape Drive:	4mm Tape Drive	4mm DDS-3 DAT Tape Drive
Note: Basic chassis dimensions of the MPS-III and MPS-V are the same, giving the MPS communi the capability to upgrade.		

US AFMSS Personnel & On-PE
(Organic, MITRE, TEMS)
Compared to Aircraft/Weapons Supported

On PE $s and People (left axis) / **AWEs Supported** (right axis)

Fiscal Year

Fiscal Year	Total Strength	BA $	Weap Syst
FY 94	137	44.9	0
FY 95	136	41.3	2
FY 96	131	40.6	5
FY 97	104	42.1	7
FY 98	70	34.2	11
FY 99	63	33.9	36
FY 00	57	41	48

Legend: Total Strength — BA $ — Weap Syst

MPS-V Delivery Schedule

	FY00	FY01	FY02	FY03
PLATFORM	**Development Systems (12):** ESC, Sanders, ACC/XRSM, 28 TES, 46 CTF, SSF, F-16 (dev). *Late Feb 00 delivery* **Production Systems (60):** F-16 (block 40), F-16 (block 50), U-2. *Late June 00 delivery*	**New Systems (27):** F-16 (block 40), F-22 **Total: 27**	**New Systems (9):** F-22 **Upgrade Systems (146):** F-15E, B-1, B-52 **Total: 155**	**New Systems (6):** F-22 **Total: 6**

MPS Computing Comparison

Task	MPS-III	MPS-V	% Faster
Boot-up to Login	4 minutes	2.5 minutes	38%
Login to Pilot	40 secs.	11 secs.	73%
New Mission	23 secs.	1 sec.	96%
Open Route Editor	25 secs.	1 sec.	96%
20 Point Route Editor	45 secs.	11 secs.	76%
Composite Threat - 23 Threats (SAM)	28 secs.	5 secs.	82%
Composite Threat - 23 Threats (Det.)	13 secs.	4 secs.	69%
Route Fly Through - 100 Frames (points 2-14)	50 minutes	19 minutes	62%
-Terrain and Imagery			
Loaded Japan DTED 039B	12 minutes	3:46 minutes	69%
Changing Maps	2-12 secs.	max 1.5 secs.	75%
Moving Map Center	2-12 secs.	max 1.5 secs.	75%
Loading Jog A	8:35 minutes	4:45 minutes	45%

MPS V Procurement/Fielding Plan

B-2
F-15E,
B-1,
B-52
F-16 Blk 50T4 (HTS)

F-15E, B-1, B-52
from MPS IIIs

F-16 Blk 40,
F-16 Blk 50,
U-2

F-16 Blk 40,
F-22

F-22

F-22

ESC
Sanders,
ACC/XRSM
28 TES,
46 CTF,
SSF,
F-16

Axis values: 0, 50, 100, 150, 200, 250, 300

X-axis: FY99, FY00, FY01, FY02, FY03
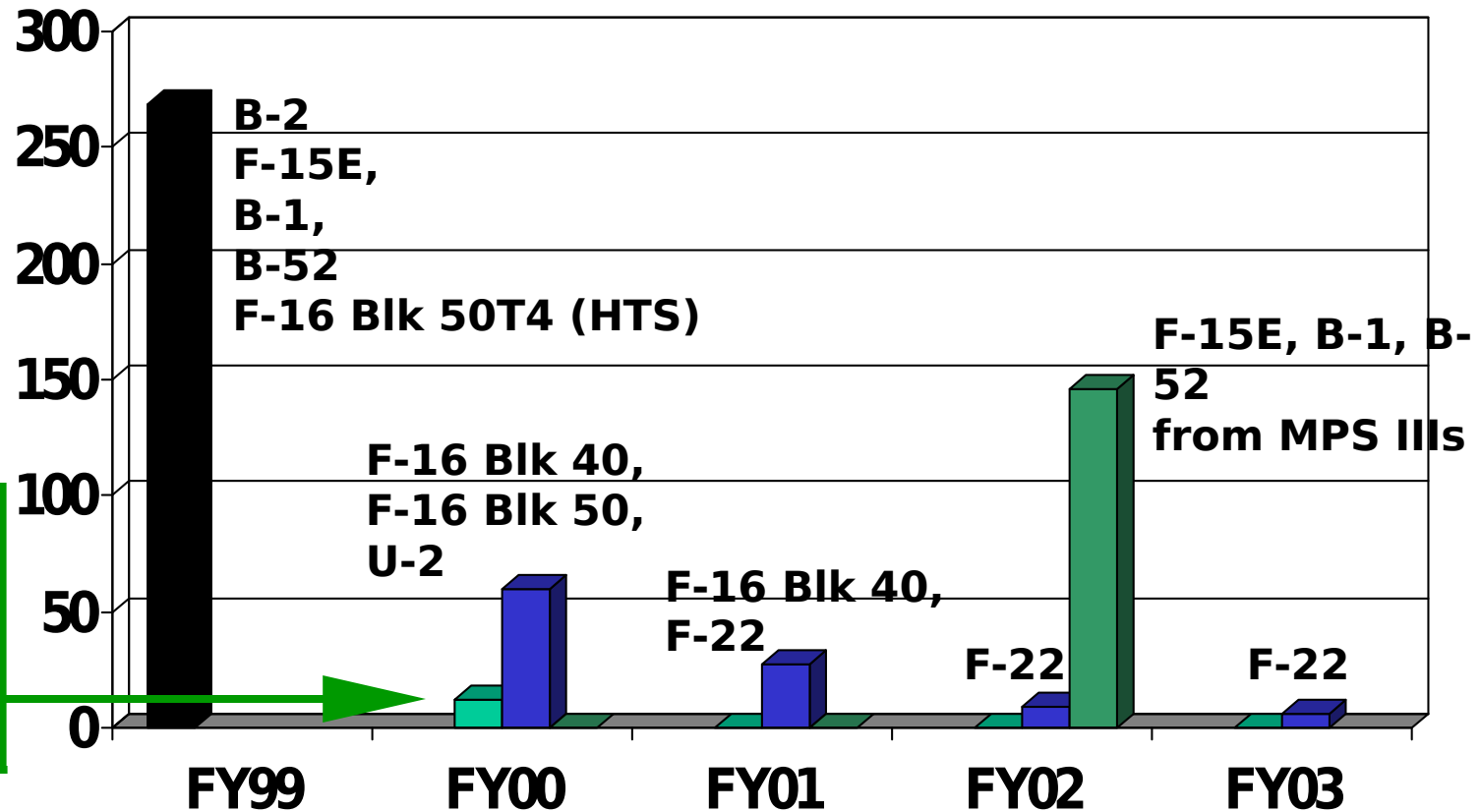
Legend: ■ MPS III/IV ■ V Devel Sys ■ V Prod Sys ■ V UPGrad